

15–500 Testing and adjusting dwell angle and firing point (contact-controlled ignition system)

Dwell angle (normal coil ignition)

Testing and adjusting value at idle ¹⁾	Change between idle and 3000/min
47–53°	max. $\pm 3^\circ$

¹⁾ Do not change dwell angle on used contacts, renew contacts when attaining lower test value. When installing new contacts, set dwell angle to $53 \pm 1^\circ$.

Dwell angle (transistorized ignition system)

Identification: Blue ignition coil, two pre-resistors and transistorized ignition switching unit.

Testing and adjusting value with used contacts at idle ²⁾	Change between idle and 3000/min
47–53°	max. $\pm 3^\circ$

²⁾ When installing new and when adjusting used breaker contact points, set dwell angle to $47 \pm 1^\circ$.

Firing point standard version

Normal compression

Engine	Ignition distributor Bosch No.	Adjusting value ¹⁾ of firing point without vacuum 4500/min	Test value Ignition timing without vacuum			Vacuum adjustment in direction of "advance" at 4500/min	Installation value of ignition distributor at starting speed without vacuum
			Idle	1500/min	3000/min		
115.923	0 231 115 064	43°	13–19°	22–38°	30–37°	8–14°	6° before TDC
	0 231 170 138		13–20°	16–22°	33–39°	14–20°	17° before TDC
	0 231 170 081		2–8°	15–23°	32–40°	10–14°	7° before TDC
115.938 115.951 115.954	0 231 170 138 0 231 170 237	40°	10–18°	13–19°	30–36°	14–20°	14° before TDC

Low compression

115.926	0 231 115 064	45°	15–21°	24–32°	32–39°	8–14°	8° before TDC
	0 231 170 081		4–10°	17–25°	34–42°	10–14°	9° before TDC
	0 231 170 138	43°	13–20°	16–22°	33–39°	15–19°	17° before TDC
115.951	0 231 170 138	40°	10–18°	13–19°	30–36°	14–20°	14° before TDC
115.939 115.954	0 231 170 190 0 231 170 208 0 231 170 238	45°	6–14°	14–22°	25–33°	8–12°	10° before TDC

¹⁾ If normally compressed engines are operated with fuel below 98 RON (min. 88 MON), adjust firing point in direction of "retard" and match to octane rating of fuel used. A reference value for this adjustment is: for each 1 RON set firing point back by 1–2°. Max. setback should not exceed 6°.

Attention!

Taking back firing point is considered an "emergency measure". The results are a reduction in output and increased fuel consumption. In addition, the engine should not be fully loaded. As soon as fuel with the specified octane rating is available, set again to full ignition advance.

Firing point national version

Ignition distributor Bosch No.	Adjusting value of firing point with vacuum at idle	Test values ignition timing without vacuum		Vacuum adjustment in direction of „retard” at idle		Installation value of ignition distributor at starting speed without vacuum
		1500/min	3000/min		„advance” 4500/min	

AUS 1977

Identification: Silver information plate on cross member in front of radiator

0 231 170 208	10° before TDC	15–20°	27–32°	–	6–10°	10° before TDC
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AUS starting 1978

0 231 170 238	10° before TDC	15–20°	27–32°	–	6–10°	10° before TDC
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J up to model year 1976

Identification: Information plate with yellow printing on cylinder head cover

0 231 170 138	15° before TDC	15–19°	31–35°	–	12–14°	15° before TDC
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J 1977

Identification: Information plate on cross member in front of radiator in Japanese language. *

0 231 170 137	10° before TDC	15–20°	27–32°	–	6–10°	10° before TDC
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S 1976

Identification: Blue information plate in Swedish language on cross member in front of radiator.

0 231 170 190	10° before TDC	15–20°	27–32°	–	6–10°	10° before TDC
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S 1977

0 231 170 208	10° before TDC	15–20°	27–32°	–	6–12°	10° before TDC
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S starting 1978

0 231 170 238	10° before TDC	15–20°	27–32°	–	6–10°	10° before TDC
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AUS 1974–1977

Identification: Information plate in English language on cross member in front of radiator.

0 231 170 137	10° before TDC	15–20°	27–32°	–	6–10°	10° before TDC
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Conventional tools

Revolution counter, stroboscope, dwell angle measuring instrument

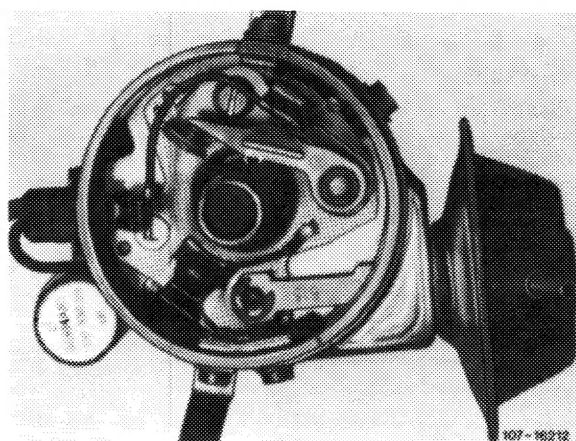
Digital tester

e.g. made by Bosch, MOT 001.03

Checking and adjusting dwell angle

- 1 Measure dwell angle at idle.
- 2 Measure dwell angle change between idle and 3000/min, max. change $\pm 3^\circ$.
- 3 Replace contact breaker points (15–505).

Do not adjust dwell angle with used contact breaker points.

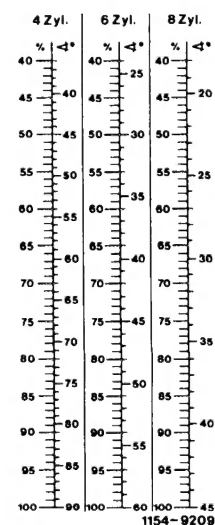


Checking and adjusting firing point

- 4 Measure firing point with stroboscope or digital tester at specified speed with or without vacuum.
- 5 Loosen ignition distributor attachment, if required, and set adjusting value of firing point by turning ignition distributor.

Screw down ignition distributor and check firing point.

- 6 Check centrifugal and vacuum adjustment of ignition distributor. For this purpose, check specified test values with or without vacuum adjustment.



Conversion of dwell angle values